

Andrew L. Valesano, MD, PhD

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Medical Training and Education

Resident Physician / Michigan Medicine

Anatomic and Clinical Pathology

July 2023 – June 2027

Medical Scientist Training Program / University of Michigan

Doctor of Medicine (M.D.)

Doctor of Philosophy (Ph.D.)

July 2016 – May 2023

Bachelor of Science / Hope College

Biology, *summa cum laude*

August 2011 – May 2015

Work Experience

Postdoctoral Researcher / Michigan Medicine

Department of Pathology

July 2023 – June 2027

- Generate and apply weakly-supervised models to detect precancerous epithelial lesions in fallopian tube resections
- Perform methylation profiling and genomics for EBV-related lymphoproliferative disorders and histiocytic disorders

Ph.D. and Postdoctoral Researcher / University of Michigan

Department of Microbiology and Immunology

August 2018 – September 2021

- Developed next-generation sequencing methods to characterize viral genetic variation within infected patients and transmission pairs
- Generated over 6000 SARS-CoV-2 genomes to track novel variants, mitigate local outbreaks in real-time, enhance hospital monoclonal antibody stewardship, and study vaccine effectiveness
- Documented the first case of donor-derived COVID-19 via lung transplantation, which modified lung transplant guidelines
- Characterize within-host oral polio vaccine genetic variants from 271 participants in a clinical trial of vaccine transmission
- Resulted in 5 first/co-first author papers, 14 papers as co-author, and 6 national/international conference presentations

Research Technician / Michigan Medicine

Department of Neurology

May 2015 – June 2016

- Studied the role of mitochondrial dysfunction in diabetic neuropathy with live-cell confocal microscopy of sensory neurons

Additional Skills

Data Science and

Computational Pathology / R, Python, UNIX, high performance cluster computing, git, Docker, Singularity, conda, RMarkdown, Slideflow, CLAM

Molecular Biology and

Genomics / Nucleic acid extraction, PCR, western blotting, Sanger sequencing, site-directed mutagenesis, Illumina sequencing and analysis, Oxford Nanopore sequencing and analysis, phylogenetic analysis

University of Washington

Summer Institutes in Statistics

/ Supervised and unsupervised machine learning, biomarkers and risk models, maximum likelihood and Bayesian modeling

Teaching Experience

Assistant Instructor,
Translational Pathology (2023)

Graduate Instructor, Introduction
to Microbiology (2020)

Honors and Recognition

Dean's Award for Research
Excellence (2023) – *To two
graduating medical students with
outstanding research*

Academic Recognition Award
(2023) – *To the top five graduating
medical students in each class*

Barry M. Goldwater Scholarship
(2014)